

IN THE CLAIMS

1. (Currently Amended) A dispersion optimized fiber having higher spot area comprising a center core region (1), a cladding region (2), a ring core region (3) and an outer glass region (4), wherein the said center core (1) and the said ring core (3) have refractive indices higher than the said outer glass region (4) and the said cladding region (2) has a lower refractive index than the said outer glass region (4), wherein  $n_1, n_2, n_3$  and  $n_4$  represent the refractive index of the said center core region (1) said cladding region (2) said ring core region (3) and said outer glass region (4) respectively and the said refractive indices are constrained by the following equations (1-4) to make the fiber have low dispersion and higher effective area during C and L band transmissions:

$$n_1 > n_3 > n_4 > n_2 \quad (1)$$

$$0.008 > (n_1 - n_4) > 0.007 \quad (2)$$

$$0.0018 > (n_3 - n_4) > 0.0014 \quad (3)$$

$$-0.0005 > (n_2 - n_4) > -0.0007 \quad (4)$$

wherein the dispersion slope is 0.07 ps/nm<sup>2</sup> km, polarization mode dispersion is < 0.1 ps / km<sup>0.5</sup> and the mode field diameter is 9.6 + 0.4 μm.

2. (Previously Presented) The dispersion optimized fiber according to claim 1, wherein said cladding (2) is provided on an outer periphery of the said center core (1), and the said ring core (3) is provided on an outer periphery of the said cladding (2), and the said outer glass region (4) surrounds the said ring core region (3).

3. (Previously Presented) The dispersion optimized fiber according to claim 1, wherein the fiber is insensitive to micro bend loss and has a dispersion slope less than 0.08 ps/nm<sup>2</sup>.

4. (Canceled)

5 (Previously Presented) The dispersion optimized fiber according to claim 1, wherein the radius of each of the said regions are restricted by the following equations (5-7):

$$a_1 \text{ is about } 2.7 \text{ } \mu\text{m} \quad (5)$$

$$a_2 \text{ is about } 6.3 \text{ } \mu\text{m} \quad (6)$$

$$a_3 \text{ is about } 8.8 \text{ } \mu\text{m} \quad (7)$$

wherein  $a_1$ ,  $a_2$  and  $a_3$  represents radius of the said center core region (1), the said cladding region (2) and the said ring core region (3) respectively.

6. (Currently Amended) The dispersion optimized fiber according to claim 1, wherein the fiber comprises a single cladding region (2) of germanium and fluorine doped material between a germanium doped said center core (1) and said ring core (3), and said outer glass region (4) is provided onto an outer periphery of the germanium doped said ring core (3).

7. (Previously Presented) The dispersion optimized fiber according to claim 1, wherein attenuation at 1550 nm is  $\leq 0.22$  dB/Km, the dispersion at 1530 to 1565 nm is 2.2 to 6.0 ps/nm km and the dispersion at 1565 to 1625 nm is 4.0 to 11 ps/nm km.

8. (Canceled)

9. (Previously Presented) The dispersion optimized fiber according to claim 1, wherein cable cut off wavelength is  $\leq$  1280 nm, core concentricity is  $\leq$  0.6  $\mu$ m and the effective area is 70 micron<sup>2</sup>.

10. (Previously Presented) The dispersion optimized fiber according to claim 1, wherein micro bending is  $\leq$  0.05 dB at 1550 and 1625 nm, and macro bending is  $\leq$  0.5 dB at 1550 and 1625 nm.

11. (Previously Presented) The dispersion optimized fiber according to claim 1, wherein the said cladding region (2) is divided into an inner cladding region and an outer cladding region.

12. - 22. (Canceled)

23. (Previously Presented) The dispersion optimized fiber according to claim 11, wherein said inner cladding region is between the center core and the ring core and the outer cladding region is between the ring core and the outer glass region.

24. (New) A dispersion optimized fiber having higher spot area comprising a center core region (1), a cladding region (2), a ring core region (3) and an outer glass region (4), wherein the said center core (1) and the said ring core (3) have refractive indices higher than the said outer glass region (4) and the said cladding region (2) has a lower refractive index than the said outer glass region (4), wherein  $n_1, n_2, n_3$  and  $n_4$

represent the refractive index of the said center core region (1) said cladding region (2) said ring core region (3) and said outer glass region (4) respectively and the said refractive indices are constrained by the following equations (1-4) to make the fiber have low dispersion and higher effective area during C and L band transmissions:

$$n_1 > n_3 > n_4 > n_2 \quad (1)$$

$$0.008 > (n_1 - n_4) > 0.007 \quad (2)$$

$$0.0018 > (n_3 - n_4) > 0.0014 \quad (3)$$

$$- 0.0005 > (n_2 - n_4) > - 0.0007 \quad (4),$$

wherein cable cut off wavelength is  $\leq 1280$  nm, core concentricity is  $\leq 0.6$   $\mu\text{m}$  and the effective area is 70 micron<sup>2</sup>.

25. (New) The dispersion optimized fiber according to claim 24, wherein said cladding (2) is provided on an outer periphery of the said center core (1), and the said ring core (3) is provided on an outer periphery of the said cladding (2), and the said outer glass region (4) surrounds the said ring core region (3).

26. (New) The dispersion optimized fiber according to claim 24, wherein the fiber is insensitive to micro bend loss and has a dispersion slope less than 0.08 ps/nm<sup>2</sup>.

27. (New) The dispersion optimized fiber according to claim 24, wherein the radius of each of the said regions are restricted by the following equations (5-7):

$$a_1 \text{ is about } 2.7 \mu\text{m} \quad (5)$$

$$a_2 \text{ is about } 6.3 \mu\text{m} \quad (6)$$

$$a_3 \text{ is about } 8.8 \mu\text{m} \quad (7)$$

wherein  $a_1$ ,  $a_2$  and  $a_3$  represents radius of the said center core region (1), the said cladding region (2) and the said ring core region (3) respectively.

28. (New) The dispersion optimized fiber according to claim 24, wherein the fiber comprises a single cladding region (2) of germanium and fluorine doped material between a germanium doped said center core (1) and said ring core (3), and said outer glass region (4) is provided onto an outer periphery of the germanium doped said ring core (3).

29. (New) The dispersion optimized fiber according to claim 24, wherein attenuation at 1550 nm is  $\leq 0.22$  dB/Km, the dispersion at 1530 to 1565 nm is 2.2 to 6.0 ps/nm km and the dispersion at 1565 to 1625 nm is 4.0 to 11 ps/nm km.

30. (New) The dispersion optimized fiber according to claim 24, wherein micro bending is  $\leq 0.05$  dB at 1550 and 1625 nm, and macro bending is  $\leq 0.5$  dB at 1550 and 1625 nm.

31. (New) The dispersion optimized fiber according to claim 24, wherein the said cladding region (2) is divided into an inner cladding region and an outer cladding region.

32. (New) The dispersion optimized fiber according to claim 31, wherein said inner cladding region is between the center core and the ring core and the outer cladding region is between the ring core and the outer glass region.